



IP SERVICES

Home IP Services PATENTSCOPE®



Search result: 1 of 1

# (WO/2005/064647) METHOD AND APPARATUS FOR CLEANING SEMICONDUCTOR WAFERS USING COMPRESSED AND/OR PRESSURIZED FOAMS, BUBBLES, AND/OR LIQUIDS

Biblio. Data	Description	Claims	National Phase	Notices	Documents
--------------	-------------	--------	----------------	---------	-----------

## Latest bibliographic data on file with the International Bureau

Publication Number: WO/2005/064647 International Application No.: PCT/US2004/042831  
 Publication Date: 14.07.2005 International Filing Date: 17.12.2004

Int. Class.: H01L 21/00 (2006.01)

**Applicants:** LAM RESEARCH CORPORATION [US/US]; 4650 Cushing Parkway, Fremont, CA 94538-6517 (US) (All Except US).  
 DE LARIOS, John, M. [US/US]; 941 Loma Verde, Palo Alto, CA 94303 (US) (US Only).  
 RAVKIN, Mike [US/US]; 1215 Knickerbocker Drive, Sunnyvale, CA 94087 (US) (US Only).  
 FARBER, Jeffrey [US/US]; 24 Wexford Road, Delmar, NY 12054 (US) (US Only).  
 KOROLIK, Mikhail [US/US]; 1751 Wayne Circle, San Jose, CA 95151 (US) (US Only).  
 REDEKER, Fritz [US/US]; 1801 Sioux Drive, Fremont, CA 94539 (US) (US Only).  
 OWCZARZ, Aleksander [US/US]; 7523 Deveron Ct., San Jose, CA 95135 (US) (US Only).

**Inventors:** DE LARIOS, John, M. [US/US]; 941 Loma Verde, Palo Alto, CA 94303 (US).  
 RAVKIN, Mike [US/US]; 1215 Knickerbocker Drive, Sunnyvale, CA 94087 (US).  
 FARBER, Jeffrey [US/US]; 24 Wexford Road, Delmar, NY 12054 (US).  
 KOROLIK, Mikhail [US/US]; 1751 Wayne Circle, San Jose, CA 95151 (US).  
 REDEKER, Fritz [US/US]; 1801 Sioux Drive, Fremont, CA 94539 (US).  
 OWCZARZ, Aleksander [US/US]; 7523 Deveron Ct., San Jose, CA 95135 (US).

**Agent:** CURTIS, Anthony, P.; Brinks Hofer Gilson & Lione, P.O. Box 10087, Chicago, IL 60610 (US).

**Priority Data:** 10/746,114 23.12.2003 US

**Title:** METHOD AND APPARATUS FOR CLEANING SEMICONDUCTOR WAFERS USING COMPRESSED AND/OR PRESSURIZED FOAMS, BUBBLES, AND/OR LIQUIDS

**Abstract:** An apparatus and method are disclosed in which a semiconductor substrate having a surface containing contaminants is cleaned or otherwise subjected to chemical treatment using a foam. The semiconductor wafer is supported either on a stiff support (or a layer of foam) and foam is provided on the opposite surface of the semiconductor wafer while the semiconductor wafer is supported. The foam contacting the semiconductor wafer is pressurized using a form to produce a jammed foam. Relative movement between the form and the semiconductor wafer, such as oscillation parallel and/or perpendicular to the top surface of the semiconductor wafer, is then induced while the jammed foam is in contact with the semiconductor wafer to remove the undesired contaminants and/or otherwise chemically treat the surface of the semiconductor wafer using the foam.

### Designated States:

AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.  
 African Regional Intellectual Property Org. (ARIPO) (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW)  
 Eurasian Patent Organization (EAPO) (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM)  
 European Patent Office (EPO) (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR)

African Intellectual Property Organization (OAPI) (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Publication Language:**

English (EN)

**Filing Language:**

English (EN)

---